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memorandum

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Release of NDI 2.2.0beta

Executive Summary

The Nuclear Data Interface 2.2.0beta has been released. Compared to NDI 2.2.0alpha, it provides minor changes to the build system and fixes problems with the binary and dedx tests.

1. Introduction

The Nuclear Data Interface (NDI) 2.2.0beta has been released. It provides minor updates from 2.2.0alpha related to the build system and the tests introduced in 2.2.0alpha. See the "Release of NDI 2.2.0alpha" for details on the major upgrades in 2.2.0alpha.

2. Release Summary

The following summarizes the changes from NDI 2.2.0alpha to NDI 2.2.0beta:

- The build system has been changed to allow for a build directory to have any name (not just "build").
- The location of the binary cross section file created for the binary functionality test has been corrected.
- A minor bug with the dedx test has been fixed.
- The version has been updated to 2.2.0beta.

3. Installation on HPC platforms

Table 1 gives the installation locations for each HPC machine and the compiler used. For each compiler, the default was chosen based on `module load`. For instance, on Snow `module load gcc` yielded GCC 9.3.0. Installations with other compilers will be provided upon request.

For each installation, both release (`libndi.a`) and debug (`libndi-debug.a`) versions are available.

Data is in the `2.2.0beta/share/` directory, and release notes (both for 2.2.0alpha and 2.2.0beta) are in `2.2.0beta/docs/`.

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TABLE 1: NDI 2.2.0beta Installations

Machine	Install Location	Compiler
Snow/Fire/Ice	/usr/projects/data/nuclear/ndi/2.2.0beta/x86_64-linux/	GCC 9.3.0
Snow/Fire/Ice	/usr/projects/data/nuclear/ndi/2.2.0beta/x86_64-linux_intel/	Intel 19.1.3
Trinitite	/usr/projects/data/nuclear/ndi/2.2.0beta/x86_64-linux_tt/	Intel 19.0.4
Trinity	/usr/projects/data/nuclear/ndi/2.2.0beta/x86_64-linux_tr/	Intel 19.0.4
Capulin/Thunder	/usr/projects/data/nuclear/ndi/2.2.0beta/arm-gnu/	GCC 7.5.0
Darwin (Power 9)	/usr/projects/data/nuclear/ndi/2.2.0beta/ppc-gnu/	GCC 4.8.5
Darwin (Power 9)	/usr/projects/data/nuclear/ndi/2.2.0beta/ppc-xl/	XL 16.1.1.7
Darwin	/usr/projects/data/nuclear/ndi/2.2.0beta/x86_64-linux/	GCC 4.8.5
Sierra/RZansel	/usr/gapps/lanl-data/nuclear/ndi/2.2.0beta/ppc-gnu/	GCC 4.9.3
Sierra/RZansel	/usr/gapps/lanl-data/nuclear/ndi/2.2.0beta/ppc-xl/	XL 16.1.1.7

4. **Notes on Testing**

Some testing has been performed with host codes. This has revealed some minor (machine precision) differences between compilers. These differences go away when debug versions are used, so it is likely optimizations are to blame. This is currently under investigation, but is unlikely to be caused by the changes from NDI 2.1.4 to NDI 2.2.0alpha or beta.

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